Claims

1. An optical fiber fixing structure for fixing a coated optical fiber to an optical fiber fixture, the optical fiber fixing structure characterized in that the optical fiber fixture is formed with an optical fiber insertion hole penetrating from a tip end side thereof to a back end side and an opening communicating from a side of the optical fiber fixture to said optical fiber insertion hole, wherein the coated optical fiber is inserted into said optical fiber insertion hole, an optical fiber fixing component having optical fiber clamping parts facing each other is inserted and fit to said opening as clamping tip end sides of said optical fiber clamping parts are faced to a side of said coated optical fiber, the coated optical fiber is clamped from both sides by the optical fiber fixing component as an outer periphery of said coated optical fiber is clamped between inner wall surfaces of the optical fiber clamping parts facing each other of said optical fiber fixing component, outer surfaces of the optical fiber clamping parts of said optical fiber fixing component are pressure welded with inner surfaces of the opening of said optical fiber fixture, and said coated optical fiber is fixed and prevented from falling off from said optical fiber fixture.

2. The optical fiber fixing structure according to claim 1, characterized in that a space between the optical fiber

clamping parts of the optical fiber fixing component is formed smaller than an outer diameter of the coated optical fiber and said optical fiber clamping parts are formed to be optical fiber pressing parts for clamping and holding the coated optical fiber from both sides.

3. The optical fiber fixing structure according to claim 1, characterized in that the optical fiber fixing component is a gutter-like component having a U-shaped cross section where the optical fiber clamping parts are extended from both sides of a base part and faced each other.

4. The optical fiber fixing structure according to claim 1, characterized in that it forms an unbonded clamping and fixing structure where the coated optical fiber is pressure welded and fixed between the optical fiber clamping parts of the optical fiber fixing component without using an adhesive and the optical fiber fixing component is pressure welded and fixed between the inner wall surfaces of the opening of the optical fiber fixture without using an adhesive.

5. The optical fiber fixing structure according to claim 1, characterized in that the optical fiber clamping parts of the optical fiber fixing component are formed with bumps and dips in the inner wall surfaces thereof.

6. The optical fiber fixing structure according to claim 5, characterized in that the bumps and dips in the inner wall surfaces of the optical fiber clamping parts of the optical

fiber fixing component are formed to have a plurality of fins that are spaced each other and extended slantly in a direction of inserting the optical fiber.

7. The optical fiber fixing structure according to claim 1, characterized in that the optical fiber fixture is formed to be a cylindrical ferrule or a connector provided with one or more of cylindrical ferrules and a cylindrical bore of said cylinder is formed to be the optical fiber insertion hole.

8. The optical fiber fixing structure according to claim 1, characterized in that in the opening of the optical fiber fixture, inner wall surfaces facing to the optical fiber clamping parts of the optical fiber fixing component are formed to be straight surfaces.

9. The optical fiber fixing structure according to claim 1, characterized in that an entrance of the opening of the optical fiber fixture is formed with projecting parts for preventing the optical fiber fixing component from falling off.

10. The optical fiber fixing structure according to claim 1, characterized in that at least the optical fiber fixing component of the optical fiber fixture and the optical fiber fixing component is formed of plastic.

11. The optical fiber fixing structure according to claim 1, characterized in that the coated optical fiber is a coated plastic optical fiber where a sheath is formed around an outer periphery of a plastic optical fiber strand.